

Amendment To The Claims

The following listing of claims will replace all prior versions, and listings, of claims in the application.

1. (Currently amended) A method for generating a genetically modified yeast organism for drug screening, which comprises the steps of:

a) causing heterologous expression of at least one protein or protein fragment by genetic modification ~~of the organism~~ by introducing a foreign gene into said yeast wherein the expression does not produce a detectable change of the phenotype which is perceptible from the outside of said ~~organism~~ yeast

b) analyzing the modified gene expression pattern and identifying compensating differentially regulated genes

c) phenotyping ~~the organism~~ said yeast wherein phenotyping is carried out following the reduction or elimination of compensating differential expression which is perceptible from the outside of said ~~organism~~ yeast.

2. (Canceled)

3. (Canceled)

4. (Canceled)

5. (Currently amended) The method of claim ~~4~~ 1, wherein the modified expression in step a) is inducible.

6. (Previously presented) The method of claim 5, wherein the genetic modification comprises introducing a vector which enables the protein or protein fragment to be inducibly expressed, preferably a vector inducible with galactose, copper tetracycline or other comparably inducible vectors.

7. (Previously presented) The method of claim 6, wherein the genetic modification comprises a knock out, preferably an inducible knock out.

8. (Canceled)

9. (Currently amended) The method of claim 8, 1 wherein the ~~cell is a yeast cell, preferably a yeast cell~~ is of the strain *S. cerevisiae*.

10. (Previously presented) The method of claim 9, wherein the modified gene expression is analyzed with the aid of DNA or protein microarrays.

11. (Canceled)

12. (Canceled)

13. (Previously presented) The method of claim 7, wherein the knock out of the differentially expressed gene is carried out by replacing at least part of the coding sequence of the differentially regulated gene with the coding sequence of a reporter gene or parts of the reporter gene sequence which are sufficient to be detected.

14. (Currently amended) The method of claim 44, 1 wherein the differentially expressed gene is less strongly expressed than in control organisms and the reduction or elimination of the differential expression is carried out by enhancing expression of the differentially expressed gene.

15. (Previously presented) The method of claim 14, wherein the reduction or elimination leads to growth inhibition of the organism.

16. (Canceled)

17. (Currently amended) A genetically modified, phenotyped ~~organism~~ yeast, obtained by the method of claim 1.

18. (Currently amended) A genetically modified ~~organism~~ yeast, having

a) genetically modified expression of at least one endogenous or foreign gene, which results in compensating differential expression of at least one other gene endogenous to said ~~organism~~ yeast, and

b) a phenotype caused by the reduction or elimination of the compensating differential expression of the gene which is perceptible from the outside of said ~~organism~~ yeast.

19. (Canceled)

20. (Currently amended) A method for identifying a substance having an effect on the function of a heterologously expressed protein or protein fragment, which method comprises the steps of:

- a) contacting said substance with said genetically modified ~~organism~~ yeast of claim 17 or 18 and
- b) measuring the change in said modified ~~organism~~ yeast as compared to genetically unmodified ~~organism~~ yeast.

21. (Currently amended) An assay for drug screening using at least one phenotyped ~~organism~~ yeast as claimed in claims 17 or 18, which comprises the steps of:

- a) determining the phenotype of said ~~organism~~ yeast
- b) contacting the substance to be tested with said ~~organism~~ yeast
- c) observing a possible modification of said phenotype.

22. (Canceled)